What is claimed is:

1. A distance sensor for a motor vehicle, having a sensor (2) for transmitting microwaves or light, or for receiving an echo signal reflected by a target object, and having a control system (1) which has the means, during travel on a straight road, for ascertaining a misalignment angle (alpha_sensor) of the sensor (2) with respect to the center axis (M) of the motor vehicle (5) from the transmitted and received rays, using an algorithm, and for using it to correct the continuing angle measurement, wherein further means (3) are provided by which compensation for trajectory curvatures can be made during travel along a curve.

2. The distance sensor as recited in Claim 1, wherein the further means (3) are a yaw rate sensor, whose signal can be used for correcting the trajectory curvatures.

3. The distance sensor as recited in Claim 1 or 2, wherein the control system (1) designed for determining a quality indicator (q_traj) of the trajectory from the ascertained misalignment angles of individual trajectories by adaptive long-term filtering.

4. The distance sensor as recited in Claim 3, wherein the quality indicator (q_traj) is calculated, for example, from the correlation value of a regression analysis of the curvature, the number of measured points, the trajectory length and/or the object speed (6).

5. The distance sensor as recited in Claim 3 or 4, wherein the adaptive long-term filter is a noise-optimized linear filter, preferably a Kalman filter.

6. The distance sensor as recited in Claim 3 or 4, wherein the adaptive long-term filter is a nonlinear filter in which the weighting of the individual measured values results from the quality appraisal.

7. The distance sensor as recited in one of the preceding claims, wherein, in case of the positioning of the sensor (2) outside the center line (M) of the motor vehicle (5), the control system (1) ascertains the misalignment angle (alpha_sensor) with respect to the center line (M).

8. The distance sensor as recited in Claim 7, wherein the control system (1) is designed to weight the misalignment angle either as a function of the weighted average values of the yaw rate sensor (3) or the displacement (y_{radar}) of the center line (M).

9. The distance sensor as recited in Claim 8, wherein the weighting takes place on the weighted average values of the two individual methods.

10. The distance sensor as recited in Claim 8 or 9, wherein quality numbers for the misalignment angle are developed from the weighting factors (G1, G2) according to the formula:

$$d_{alpha} = G1(q\_traj) \star d_{alpha\_traj} + G2(q\_obj) \star d_{alpha\_obj}.$$

where d_{alpha} is the currently valid misalignment angle from the center line (M) and G1(q_traj) or G2(q obj) are weighted average values from the values of the yaw rate sensor or the average displacement, (and) d_{alpha_traj} and d_{alpha_obj} are associated angles.

11. A speed regulator having a sensor as recited in one of the preceding claims, wherein the sensor (2) is mounted on the front and/or rear area of a motor vehicle (5).